



# **EPA CAFO NPDES Training**

## **Technical Standards**

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**November 16, 2011**



A vertical collage of farm animals. At the top, two brown and white cows stand in a field. Below them, a black and white cow stands in a green field. Further down, a large flock of white chickens with red combs is visible. At the bottom, a white sheep is shown in a field.

# What is a Technical Standard

- Any permit issued to a CAFO must include the requirement to implement a nutrient management plan (NMP) that includes protocols for developing land application rates for manure
- Deriving a land application rate is based on scientific criteria and mathematical processes
  - Determining manure nutrient availability
  - Determining soil nutrient availability
  - Determining crop nutrient needs and yield goals
  - Assessing transport risk
- Various technical documentation established for making these determinations
  - USDA/Land Grant Universities



# Establishing a Technical Standard

- The State Director must have established technical standards for nutrient management
  - Within 1 to 2 years from February 12, 2003
  - Must be consistent with the effluent guideline requirements defined in 40 CFR 412.4(c)(2)
  - Needs to be publically accessible
    - Clearly identifies expectation
- 40 CFR 412.4(c)(2) is not a technical standard
  - It defines what the standard must include

AGRICULTURE STORM WATER  
122.23(e)

**CAFO NMP Permit Requirements**  
122.42(e)(1)(i)-(ix)

122.42(e)(1)(6)  
(conservation practices)

122.42(e)(1)(7)  
(manure/&Soil testing)

122.42(e)(1)(8)  
(protocols for land application)

122.42(e)(1)(9)  
(record keeping)

**Effluent Guideline (Large CAFOs subpart C and D)**

412.4(c)(5)

412.4(c)(3)

412.4(c)(2)

412.37(b)&(c) &  
412.47(b)&(c)

(Setback requirements)

(Test manure 1X/yr & soil 1x/5yrs)

(Determine application rates)

(Record keeping)


**Technical Standard**

Requirement to establish a technical standard  
123.36



# EPA's National Evaluation of Technical Standards

- Three Phases of EPA Review
  1. State Director Identification of the standard
  2. Are the elements of 412.4(c)(2) and 122.42(e)(5) contained in the standard?
  3. Examining the effectiveness of minimizing N and P transport



# Phase 2

## Completeness Review

- Are the elements of 412.4(c)(2) and 122.42(e)(5) contained in the standard?
- 122.42(e)(5) - Terms of a NMP
  - Site-specific “terms of a NMP” are to be included in a CAFO NPDES permit
  - This includes the amount, form, source, method, and timing of application
    - As permit terms (linear approach)
    - Factors of the methodology (narrative approach)

# Phase 2

## Completeness Review

APPLICATION RATES			
Field Specific assessment			
	Criteria	Specify	Reference
4	Does the TS contain a clearly outlined field-specific assessment tool for N and P transport from the field for surface waters?	<i>(Answer Y or N; described what the assessment tool is)</i>	<i>(Provide a reference)</i>
5	Does the assessment identified by the TS (above) provide quantitative and/or qualitative criteria for determining whether the rate can be N-based, P-based, or prohibited?	<i>(Answer Y or N; Provide the quantitative criteria and corresponding rate)</i>	<i>(Provide a reference)</i>
6	Where the assessment requires a P-based application rate is it constrained to a 1-year P removal rate?	<i>(Answer Y or N; If N, provide under what criteria this is allowed and what rate is allowed (e.g. 1.5xP removal, 2 x P removal, 3 x P removal)</i>	<i>(Provide a reference)</i>

# Phase 2

## Completeness Review

Amount			
	Criteria	Specify	Reference
7	Does the TS provide the basis for determining expected crop yields?	(Answer Y or N; Explain what yields should be based on and if book values are provided, what are they and are they included as part of the standard)	(Provide a reference)
8	Does the TS provide crop recommendations that are to be used to base applications rates for crops?	(Answer Y or N; Provide what recommendations are used for different crops and their source)	(Provide a reference)
9	Does the TS define what a P-based application rate is? (e.g. crop removal rate, soil test, or the choice of either)?	(Answer Y or N; Provide what it is)	(Provide a reference)
10	Does the TS provide the actual removal rates, soil test recommendations or both for crops, depending on the answer to item 9?	(Answer Y or N; Provide what the removal rate is or the soil test recommendation)	(Provide a reference)
11	Does the TS provide a value for N credits to be given when legume crops are planted?	(Answer Y or N; Provide what N credits are applied for different legumes)	(Provide a reference)
12	Are N mineralization rates provided for each type (dairy, beef, poultry, swine, etc) of manure?	(Answer Y or N; Provide rates with corresponding sources)	(Provide a reference)

# Phase 2

## Completeness Review

Appropriate Flexibilities			
Criteria		Specify	Reference
29	Does the TS allow multi-year P application	<i>(Answer Y or N; If Yes define what multi-year application means for this standard)</i>	<i>(Provide a reference)</i>
30	If yes, does it provide restrictions on when and/or where this can occur?	<i>(Answer Y or N; provide restrictions apply)</i>	<i>(Provide a reference)</i>
31	If yes, is there a restriction that additional P to these fields may not be applied until the amount applied in the single year has been removed through plant uptake and harvest?	<i>(Answer Y or N)</i>	<i>(Provide a reference)</i>
32	If yes, does the standard set N limits that must be met?	<i>(Answer Y or N; Provide N limits that must be met)</i>	<i>(Provide a reference)</i>



# Phase 2

## Completeness Review

- Lessons Learned
  - Common practice to use generic or voluntary guidance for this regulatory requirement
    - eFOTG
    - NRCS 590
    - Land Grant Guidance
    - “Commission Guidance”
  - Emphasizes the need to be clear about the expectation
    - Articulate in the permit
    - Articulate in writing and publicly post



# Status of National Review

- Phase1 - Submission
    - All states have submitted standards – *with a few exceptions*
  - Phase 2 – Review for Completeness
    - Region 3
    - Region 8
    - Region 7
    - Region 4
    - Region 10
    - Region 5
    - Region 9
    - Region 2
    - Region 6
    - Region 1
- Phase 2.1 Completed –  
Initial analysis shared with States
- Discussing with Regions
- Waiting to hear from HQ

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# Region 3 Review

- Driver – Chesapeake Bay Rule
  - Commitment to evaluate Bay state programs and technical standards
- All states provided feedback on initial evaluation
  - Clarification and/or additional documentation
  - MD and West Virginia provided entirely new standards to be reviewed
- Public Posting – In Progress